DRAFT TEXT AMENDMENTS
LAKE AND LAKESHORE PROTECTION REGULATIONS

EROSION CONTROL

2.5 WORK REQUIRING A PERMIT

Without limitation, the following activities, when conducted within the *lake and* lakeshore protection zone, including the lake, lakeshore, and all land within twenty (20) feet of average high water, are covered by these regulations and are examples of work for which a permit is required:

F. Construction of buildings, *structures,* or other ~~impervious~~ surfaces*;*

~~I.~~ Construction of *dynamic equilibrium beaches,* retaining walls and *rip rap* ~~breakwaters~~;

J. Construction of docks *and associated breakwaters*;

K Installation of shore stations, ~~boat rail systems, boat ramps, boat shelters,~~ ~~boat storage, and parking facilities~~, buoys, and floating docks;

M Any ~~major~~ clearing or removal of natural vegetation;

T. Construction of boat rail systems, boat ramps, boat shelters, and boat storage;

U. Redistribution of gravel;

V. Aquatic Toys which are permanently affixed or affixed for longer than seven (7) consecutive days; and,

W. ~~T.~~ Any other work, not herein mentioned, that may have an impact on a lake, lakebed or lakeshore.

2.8 CONSTRUCTION OR INSTALLATIONS NOT ALLOWED IN THE LAKESHORE PROTECTION ZONE

G. Covering Beach with ~~Impervious~~ Non-native Material (material which does not allow water absorption);

3.3 PLANNING BOARD REVIEW PROCEDURE, WHEN REQUIRED

A. A public hearing is required for any project involving the following types of work within the lake and lakeshore protection zone.

1. Construction of channels or ditches;

2. *Excavation;*

3. *Dredging: To remove muck, silt sediment, rock or vegetation;*

4. *Filling, including artificial beach creation;*

5. *Construction of lagoons;*

6. *Construction of boat service facilities, including the installation of fuel pumps or sewage pump-out facilities;*

7. *Construction of retaining walls and rip rap;*

8. *The development of roads, roadways, and driveways to serve boat ramps; and*

9. *Any other work, not herein mentioned, that may have an impact on a lake, lakebed, or lakeshore.*

B. ~~A. When the planning director, his designee and/or governing body determines that a proposed project will require planning board review, it.~~ *Planning staff* will forward the application, all submitted information, *staff report,* and findings ~~and recommendations~~ to the planning board.

C. ~~B.~~ The planning board shall review the application, other information and the planning staff report and shall submit recommendations to the governing body.

D. ~~C.~~ After receiving the recommendation of the planning board, the governing body shall approve, conditionally approve or deny the permit application ~~as provided for in Section 3.3 above~~.

4.2 GENERAL CONSTRUCTION STANDARDS

A. CONSTRUCTION ~~SEASON~~ *BEST MANAGEMENT PRACTICES*

1. Policy Considerations

a. *Construction activities have the potential to disturb soils, mobilize sediments, and introduce pollutants into lake waters. Requiring the use of Best Management Practices (BMPs) during construction minimizes these risks and helps prevent erosion, sedimentation, and degradation of water quality*

b. Lake levels tend to seasonally fluctuate, thus exposing more dry shoreline area than at other times of the year. Construction impacts associated with projects are more controllable, and negative impacts such as siltation, contamination, or spread of debris can be reduced,

mitigated, or eliminated when work is done during low pool times and, most importantly, on dry land.

c. BMPs such as silt fencing, straw wattles, turbidity curtains, erosion control blankets, and proper containment of construction materials provide effective and practical means of controlling runoff and limiting the spread of sediments into lake waters.

d. Ensuring that construction occurs during low-pool conditions, combined with mandatory BMP implementation, reduces the likelihood of long-term shoreline impacts and maintains the stability and ecological integrity of the lakeshore.

2. Standards

c. To prevent erosion, sedimentation, and water quality impacts, the following BMPs shall be implemented for all lakeshore construction activities:

1) Install silt fences, straw wattles, fiber rolls, or equivalent sediment barriers downslope of all disturbed areas.

2) Remove accumulated sediment promptly and repair damaged barriers immediately.

3) Exposed soils shall be stabilized with mulch, straw, erosion control blankets, or vegetation as soon as practicable.

4) Stockpiles shall be covered or contained to prevent wind or water transport.

5) No materials shall be allowed to enter the water.

6) If water contact is unavoidable for permitted activities, turbidity curtains or equivalent controls shall be used as needed to prevent sediment dispersal.

7) Construction mats, timber mats, or composite access mats shall be used as necessary to protect soils, vegetation, and shoreline root zones from rutting or compaction by mechanized equipment.

8) Equipment access routes shall be limited to designated paths, and mats shall be repositioned as needed to confine disturbance to the minimum practical area.

9) Geotextile underlayment shall be placed beneath access mats in soft or saturated soils to maintain mat stability and reduce sediment mobilization.

10) Disturbed areas associated with temporary access routes or construction mat placement shall be restored and stabilized immediately following removal of equipment.

D. EROSION, SEDIMENTATION, AND STORM RUNOFF

2. Standards

b. The natural ~~protective~~ armament of the lakebed and lakeshore shall be preserved *in place.* ~~wherever possible.~~ *Where erosion control is necessary, constructed armament may be permitted subject to the standards in Section 4.3.E.*

c. Natural vegetation shall be preserved wherever possible. Healthy trees three (3) inches in diameter or larger shall be preserved except where approved on a case-by-case basis.

1) Removal of diseased, dying, or hazardous trees or vegetation is allowed.

2) Selective thinning of trees and vegetation may be allowed when necessary to promote forest health or reduce wildfire risk.

3) All thinning must be conducted in a manner that preserves root systems and minimizes ground disturbance to prevent erosion.

4) Clearcutting or the wholesale removal of trees, vegetation, or any activity resulting in substantial root removal is prohibited.

f. Mechanized equipment may be allowed in the Lakeshore Protection Zone as part of a permitted project; however, at no time shall any vehicle slice, gouge, or rut the beach or shoreline, or expose silts *or* fines. ~~or come in contact with the lake.~~ *Tires, tracks, or any portion of the equipment chassis shall not contact the water. Buckets or similar working implements may contact the water only when required to complete the permitted activity and only under conditions that prevent disturbance of the lakebed and minimize turbidity.*

4.3 DESIGN STANDARDS FOR FACILITIES

E. ~~RETAINING WALLS AND RIP RAP~~ *SHORELINE EROSION CONTROL*

1. Policy Considerations

   c. Other alternatives, such as *vegetative* rip rap, *the placement of woody debris, including logs and root wads, installation of vegetation or soil wraps, use of coconut fiber blankets, or construction of an erosion control beach, known as a dynamic equilibrium beach,* should be ~~explored first~~ *considered and evaluated before a rip rap or retaining wall is proposed.* Retaining walls should be constructed only as a last resort *when rip rap and soft-stabilization methods prove to be infeasible or ineffective*. When used, retaining walls should be constructed only for the purpose of stopping shoreline erosion.

2. Standards

   a. All Facilities

      5) Where active erosion is present and documented, an applicant may propose to regain erosional loss experienced in the past twelve (12) months. No attempt shall be made to extend the land area into the lake any further *unless permitted as a dynamic equilibrium beach*.

      6) ~~Retaining walls and ripraps~~ *Shoreline erosion controls* are exempt from meeting the general setback requirement standards listed in Section 4.2.H.2 of these regulations.

   c. Additional Standards – Retaining walls

      1) Retaining walls shall be permitted only when the applicant provides documentation demonstrating that soft-stabilization methods were not feasible, were unsuccessful, or would not adequately protect the lakeshore.

   d. Additional Standards – Dynamic Equilibrium Beach

      1) Dynamic equilibrium beaches are required to be designed by a qualified professional specializing in dynamic gravel beaches and/or a licensed engineer.

      2) Materials used to construct an erosion control beach shall only be placed within the riparian boundaries of the landowner(s) to whom the permit was issued.

3) The surface materials used to construct the beach shall replicate the surrounding natural lakebed materials to the extent possible. Adjacent landowners are encouraged to cooperate in solving erosion control problems.

4) Placement of prescriptive substrate directly into the lake is allowed for dynamic equilibrium beaches, wave breaks, and habitat restoration during low water with an approved lakeshore permit and floodplain permit.

6) Prescriptive substrate type and color must approximate the existing materials on the adjacent lakeshore.

F. DREDGE, FILL, AND SWIM BEACH CREATION

2. Standards

e. Fill projects for the purpose of expanding existing land areas shall not be permitted, *unless permitted as a dynamic equilibrium beach*.

h. Addition of rock to the lakebed and lakeshore protection zone is *a* permissible activity but shall be reviewed on a case-by-case basis, and, *unless permitted as a dynamic equilibrium beach,* subject to the following requirements:

CHAPTER 6 – DEFINITIONS

ARMAMENT, NATURAL: The existing, undisturbed layer of naturally occurring materials—such as cobble, gravel, stone, vegetation, root systems, woody debris, and other naturally occurring shoreline elements—located along the lakebed or lakeshore that provides inherent protection against erosion, wave action, and sediment displacement. These materials are formed or deposited through natural geological, hydrological, and ecological processes and function collectively to stabilize the shoreline without the placement of manufactured or engineered structural hardening.

ARMAMENT, CONSTRUCTED: Any deliberately placed material—such as riprap, rock, or engineered erosion control products—installed to stabilize the shoreline or lakebed, dissipate wave energy, and prevent erosion. All constructed armament must comply with applicable standards for material type, placement slope, and integration with filter fabric or other erosion control measures as outlined in Sections 4.2.D and 4.3.E of these regulations.

BEST MANAGEMENT PRACTICES (BMPs): Physical, structural, or managerial practices that, when used singly or in combination, prevent or reduce the displacement of soil and the discharge of pollutants or sediment into the lake. Examples include silt fences, turbidity curtains, erosion control blankets, and designated staging areas.

BIOENGINEERING (SOFT ARMORING): A method of shoreline stabilization that utilizes living plant materials, structural organic compounds (such as coir logs or large woody debris), and

specialized soil techniques to prevent erosion. Unlike constructed armament, bioengineering mimics natural processes to restore ecological function while providing structural integrity.

CONSTRUCTION MATS: Temporary surface-stabilization platforms made of timber, laminated wood, or composite materials that are placed on the ground to support mechanized equipment during construction activities. Their purpose is to reduce soil disturbance, prevent rutting and compaction, protect vegetation and root zones, and minimize sediment generation in sensitive areas such as lakeshores, wetlands, and riparian zones.

DECONSTRUCTION: The orderly dismantling and removal of existing structures—such as docks, boat lifts, rail systems, or retaining walls—located within the lakeshore protection zone. It involves removing materials in a way that minimizes disturbance to the shoreline, lakebed, and surrounding environment.

DYNAMIC EQUILIBRIUM BEACH: The addition or reintroduction of prescriptive substrate, including cobble and/or gravel, to a shoreline beach and its underwater extension to engineer a wave break that adjusts to storm waves and restores lake ecology and naturally dissipates wave action.

GEOTEXTILE: A permeable synthetic fabric (woven or non-woven) used in construction to separate, stabilize, reinforce, filter, or drain soils. When used under construction mats or access routes, geotextile provides load distribution, prevents mixing of soil and construction materials, and helps reduce erosion and sediment mobilization in saturated or unstable ground conditions.

IMPERVIOUS: ~~Not permeable, impenetrable by water.~~ A material or surface that does not allow water to pass through, such as concrete, asphalt, or solid decking. These surfaces contribute fully to stormwater runoff and are counted at 100% in impervious surface calculations. Materials with partial permeability—such as slatted or grated decking—are considered partially impervious. Their contribution to impervious surface calculations shall be adjusted based on the percentage of surface area that allows water to pass through.

LIVING SHORELINE: A shoreline management system that provides environmental benefits including water quality enhancement and habitat conservation through the strategic placement of plants, stone, and sand. This approach prioritizes "Natural Armament" over vertical retaining walls to allow for natural dissipation of wave energy.

LOW IMPACT DEVELOPMENT (LID): A land planning and engineering design approach that manages stormwater runoff as close to its source as possible. Within the Lakeshore Protection Zone, this includes the use of rain gardens, bioswales, and pervious pavements to filter nutrients before they reach the lakebed.

MITIGATION: A process of addressing environmental impacts through a hierarchy of actions: first, avoiding the impact altogether; second, minimizing the impact by limiting the degree or magnitude of the action; and third, compensating for the impact by restoring or providing substitute resources or environments.

NATIVE VEGETATION: Indigenous plant species that naturally occur in the Flathead Valley riparian and upland ecosystems. These plants are adapted to local soil and climate conditions and are essential for maintaining the "Natural Armament" of the shoreline and filtering runoff.

NATURE-BASED SOLUTIONS (NBS): Actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits

PERVIOUS: A material or surface that allows water or other liquids to pass through it, either by absorption or through openings, reducing runoff and promoting natural drainage.

RETAINING WALL: A man-made wall or tiered structure built of stone, concrete, treated timber, or other materials designed to resist the lateral pressure of soil and stabilize a slope or embankment along the shoreline.

RIP RAP: A layer, facing, or protective mound of stones, ~~or~~ rock, or other materials ~~randomly placed~~ *placed at a maximum slope of one horizontal to two vertical (2:1)* to prevent erosion, scour, or sloughing of a structure or embankment.

TURBIDITY: A measure of water clarity or the degree to which water contains individual particles (such as sediment or algae) that limit light penetration. Excessive turbidity caused by deconstruction or construction activity is a primary indicator of material harm to aquatic life.

TURBIDITY CURTAIN: A temporary, flexible sediment barrier (often a "silt curtain") installed in the water during construction or deconstruction. It is weighted at the bottom and floated at the top to enclose a work area and prevent suspended sediments from migrating into the open lake.

VARIANCE: A departure from the standards when strict application of the requirement would result in practical difficulty or undue hardship due to unique physical or environmental conditions of the property. A variance may be granted only when the requested departure is the minimum necessary to address the hardship, does not create adverse environmental impacts, and remains
WAVE ATTENUATION SYSTEM: A floating or fixed device, such as a "living breakwater" or a "sill," designed to reduce the height and energy of incoming waves before they reach the shoreline. These systems are intended to protect the Dynamic Equilibrium Beach without creating the negative ecological impacts of a solid seawall.

ZONE OF INFLUENCE: The area of the lakebed and water column likely to be affected by the deployment of a structure or the operation of a vessel, including the area impacted by propeller wash, sediment suspension, or shade-casting that prevents the growth of aquatic vegetation.